

Now Patent No 6,368,899

ELECTRONIC DEVICE PACKAGING

This application is a continuation of U. S. patent application No. 09/520,928, filed 3/8/2000, entitled ELECTRONIC DEVICE PACKAGING, incorporated herein.

5 BACKGROUND OF THE INVENTION

The present invention relates to electronic device packaging, and more particularly to hermetic packaging of electronic devices. Even more particularly, the present invention relates to multilayer hermetic
10 coating in electronic device packaging.

Integrated semiconductor circuits are critical devices in most electronic systems today. These integrated semiconductor circuits have been broadly used in a variety of fields. Historically, two versions of
15 many integrated semiconductor circuits were designed by manufacturers, one packaged in a non-hermetic plastic package (plastic packaged microelectronics (PEM) device), such as molded epoxy, silicone or phenolic; and another packaged in a hermetic ceramic package. The hermetic
20 ceramic packages were typically used in very sensitive, harsh environment and/or high reliability applications, such as military applications, including weapon systems; space applications, such as for use on Earth space orbit satellites; aerospace applications; ruggedized commercial
25 and medical applications; and transportation applications, such as automotive and avionics applications.

One problem heretofore addressed by hermetic ceramic packages was to prevent the invasion of moisture,
30 ions and other impurities, including oxygen, into critical portions of the package, for example, wire bond sites, and into an integrated semiconductor circuit die. This invasion of impurities can cause oxidation and other

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